

In the Claims:

The claims denoted below as "Currently Amended" are for the purpose of renumbering the claims to correct the claim numbering errors stated by the Examiner in the Advisory Action mailed 04/25/2003. The claims are as follows:

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Claim 1. (Previously Amended) A method for forming a trimmed gate in a transistor comprising the steps of
forming a polysilicon portion of a gate conductor on a substrate having a semiconductor portion; and
trimming the polysilicon portion by a film growth method selective to laser-absorbing polysilicon.

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Claim 2. (Original) The method of claim 1, wherein the selective film growth method comprises selective surface nitridation.

Claim 3. (Withdrawn)

Claim 4. (Original) The method of claim 1, wherein the step of trimming the polysilicon portion further comprises selectively compensating n-channel and p-channel devices.

Claim 5. (Original) The method of claim 1, additionally comprising the step of at least partially removing the trimming film.

Claim 6. (Original) The method of claim 1, wherein the trimming film is anisotropically etched, forming gate conductor spacers.

Claim 7. (Original) The method of claim 1, wherein the trimming film is silicon-rich and the method further comprises the step of forming additional nitride or oxide layers on the trimming film.

Claim 8. (Original) The method of claim 2, wherein the step of trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to 50-1000 expose pulses of laser irradiation with an energy fluence of 200-700 mJ/cm² in the presence of ammonia at a pressure of 10-1500 torr.

Claim 9. (Original) The method of claim 8, wherein the step of trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 10. (Original) The method of claim 9, wherein ammonia is supplied at about 100 ccn/min.

Claim 11-13. (Withdrawn)

Claim 14. (Previously Amended) A method for forming selectively compensated semiconductor devices comprising the steps of:

forming a plurality of polysilicon portions of gate conductors on a substrate having a semiconductor portion;

masking at least one polysilicon portion intended for a n-channel device;

trimming at least one unmasked polysilicon portion intended for a p-channel device by a film growth method selective to laser-absorbing polysilicon, wherein the extent of trimming is selected to accomplish device compensation of the p-channel and n-channel devices.

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Claim 15. (Original) The method of claim 14, wherein the selective film growth method comprises selective surface nitridation.

Claim 16. (Withdrawn)

Claim 17. (Original) The method of claim 15, wherein the step of trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 18-22. (Withdrawn)

Claim 23. (Previously Amended) A method for forming a trimmed gate in a transistor

comprising the steps of:

forming a polysilicon portion of a gate conductor on a substrate having a semiconductor portion; and

trimming at least an electrically significant portion of the polysilicon portion by a film growth method selective to laser-absorbing semiconductor material.

Claim 24. (Previously Added) The method of claim 23 wherein trimming the polysilicon portion comprises trimming only a portion of the polysilicon portion.

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Claim 25. (Previously Added) The method of claim 22 wherein trimming at least an electrically significant portion of the polysilicon portion comprises reacting the polysilicon portion to a depth of at least ten nanometers.

Claim 26. (Previously Added) The method of claim 22 wherein trimming at least an electrically significant portion of the polysilicon portion comprises reacting the polysilicon portion to a depth within a range of 10 to 100 nanometers.

Claim 27. (Previously Added) The method of claim 22, wherein the selective film growth method comprises selective surface nitridation.

Claim 28. (Previously Added) The method of claim 22, wherein the step of trimming at least an electrically significant portion of the polysilicon portion further comprises selectively

compensating n-channel and p-channel devices.

Claim 29. (Previously Added) The method of claim 22, additionally comprising the step of at least partially removing the trimming film.

Claim 30. (Previously Added) The method of claim 22, wherein the trimming film is anisotropically etched, forming gate conductor spacers.

Claim 31. (Previously Added) The method of claim 22, wherein the trimming film is silicon-rich and the method further comprises the step of forming additional nitride or oxide layers on the trimming film.

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Claim 32. (Previously Added) The method of claim 27, wherein the step of trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to 50-1000 expose pulses of laser irradiation with an energy fluence of 200-700 mJ/cm² in the presence of ammonia at a pressure of 10-1500 torr.

Claim 33. (Previously Added) The method of claim 32 wherein the laser irradiation is of a wavelength absorbed by the gate material selective to surrounding materials.

Claim 34. (Previously Added) The method of claim 32, wherein the step of trimming the gate

conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 35. (Previously Added) The method of claim 34, wherein ammonia is supplied at about 100 ccn/min.

Claim 36. (Previously Amended) A method for forming selectively compensated semiconductor devices comprising the steps of:

forming a plurality of polysilicon portions of gate conductors on a substrate having a semiconductor portion;

masking at least one polysilicon portion intended for a n-channel device;

trimming at least an electrically significant portion of one unmasked polysilicon portion intended for a p-channel device by a film growth method selective to laser-absorbing polysilicon, wherein the extent of trimming is selected to accomplish device compensation of the p-channel and - channel devices.

Claim 37. (Previously Added) The method of claim 36, wherein the selective film growth method comprises selective surface nitridation.

Claim 38. (Previously Added) The method of claim 37, wherein trimming comprises reacting the polysilicon portion to a depth of at least ten nanometers.

Claim 39. (Previously Added) The method of claim 37, wherein the step of trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 25 40. (Currently Amended) The method of claim 23, wherein trimming at least an electrically significant portion of the polysilicon portion comprises reacting the polysilicon portion to a depth of at least ten nanometers.

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Claim 26 41. (Currently Amended) The method of claim 23, wherein trimming at least an electrically significant portion of the polysilicon portion comprises reacting the polysilicon portion to a depth within a range of 10 to 100 nanometers.

Claim 27 42. (Currently Amended) The method of claim 23, wherein the selective film growth method comprises selective surface nitridation.

Claim 28. 43. (Currently Amended) The method of claim 27 42, wherein the step of trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to 50-1000 expose pulses of laser irradiation with an energy fluence of 200-700 mJ/cm² in the presence of ammonia at a pressure of 10-1500 torr.

Claim 29. 44. (Currently Amended) The method of claim 28 43, wherein the laser irradiation is of a wavelength absorbed by the gate material selective to surrounding materials.

Claim 30. 45. (Currently Amended) The method of claim ~~28~~ 43, wherein the step of trimming the gate conductor by selective surface nitridation comprises exposing structures formed on the semiconductor portion to about 150 expose pulses of 308 nm laser irradiation with an energy fluence of 400-500 mJ/cm² in the presence of ammonia at a pressure of about 300-500 torr.

Claim 31. 46. (Currently Amended) The method of claim 30 45, wherein ammonia is supplied at about 100 cc/min.

Claim 32. 47. (Currently Amended) The method of claim 23, wherein the step of trimming at least an electrically significant portion of the polysilicon portion further comprises selectively compensating n-channel and p-channel devices.

Claim 33. 48. (Currently Amended) The method of claim 23, additionally comprising the step of at least partially removing the trimming film.

Claim 34. 49. (Currently Amended) The method of claim 23, wherein the trimming film is anisotropically etched, forming gate conductor spacers.

Claim 35. 50. (Currently Amended) The method of claim 23, wherein the trimming film is silicon-rich and the method further comprises the step of forming additional nitride or oxide layers on the trimming film.

Claim 40. 51. (Currently Amended) The method of claim 36, wherein the step of trimming the gate conductor comprises exposing polysilicon to laser irradiation of 308 nanometer wavelength.

Claim 41. 52. (Currently Amended) A method for trimming at least a portion of at least one structure on a semiconductor substrate, the structure comprising a material, the method comprising the steps of:

opening a mask to expose the at least a portion of the at least one structure;

abutting the surface of the at least a portion of the at least one structure with a pressurized nitrogen compound atmosphere; and

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level.* irradiating the at least a portion of the at least one structure through the open mask with a laser, the laser having a wavelength adapted to be absorbed by the material of the structure, wherein a power and pulse repetition of the laser and the pressure and a flow rate of the nitrogen compound are controlled to produce a nitride film on the at least a portion of the at least one structure.

Claim 42. 53. (Currently Amended) The method of claim 41 52, further comprising the step of etching at least a portion of the nitride film selective to the material of the structure.